

Appl. No. 10./069,409
Response dated January 10, 2005
Reply to Office Action of December 30, 2004

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.-11. (canceled)

12. (previously presented) A process for bonding substrates with hotmelt adhesive comprising:

- (a) providing at least two substrates for bonding together;
- (b) applying at least one microwave-activatable primer to at least one of the substrates;
- (c) applying at least one hotmelt adhesive to at least one of the substrates;
- (d) pressing the at least two substrates together so that the primer and the hotmelt adhesive are between the substrates and exposing at least the microwave-activatable primer to microwaves to heat the hotmelt adhesive; and
- (e) cooling the hotmelt adhesive

13. (previously presented) The process of claim 12 wherein one of the substrates is porous and the other substrate is porous or nonporous.

14. (previously presented) The process of claim 13 wherein at least one of the substrates is a porous woven or

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nonwoven fibrous substrate selected from leather or a textile.

15. (previously presented) The process of claim 12 wherein the microwave-activatable primer comprises a mixture of at least two different microwave-active additives in a quantity sufficient to heat the hotmelt adhesive to where it flows.

16. (previously presented) The process of claim 15 wherein the two microwave-active additives differ in at least one property selected from size, shape, electrical conductivity or thermal conductivity, or combinations thereof.

17. (previously presented) The process of claim 12, wherein the hotmelt adhesive is thermoplastic or reactive and contains no microwave-activatable additives.

18. (previously presented) The process of claim 12, wherein the hotmelt adhesive is applied in a solid or molten state.

19. (previously presented) The process of claim 18 wherein the hotmelt adhesive is applied in the form of a film, net or powder.

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20. (previously presented) The process of claim 18 wherein the hotmelt adhesive is applied as a melt to the substrate.

21. (previously presented) The process of claim 18 wherein the hotmelt adhesive is applied by spraying the hotmelt adhesive onto at least one of the substrates.

22. (previously presented) The process of claim 12 wherein the applied microwave-activatable primer is exposed to electromagnetic fields of 1 Hz to 100 GHz to improve wetting or penetration or both of the hotmelt adhesive.

23. (previously presented) The process of claim 12 wherein the substrates having the liquid hotmelt adhesive and the microwave-activatable primer in between are pressed together under a pressure ranging from 0.5 bar to 6 bar for a time period ranging from 5 seconds to 20 minutes.

24. (previously presented) The process of claim 23 wherein the substrates are pressed together under a pressure ranging from 2 bar to 5 bar for a time period ranging from 10 seconds to 30 seconds.

25. (previously presented) The process of claim 12, wherein the microwave-activatable primer is exposed to microwaves that heat the primer and not the substrates.

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26. (previously presented) The process of claim 12 wherein after exposing the microwave -activatable primer to the microwaves, the substrates remain pressed together at least until after the hotmelt adhesive begins to solidify.

27. (previously presented) The process of claim 26 wherein the substrates remain pressed together at least until the hotmelt adhesive has cooled to a temperature of about 30°C.

28. (previously presented) The process of claim 12 wherein the substrates are components of a shoe and the process is part of an in-line process for making shoes.

29. (previously presented) A process for applying hotmelt adhesive comprising spraying hotmelt adhesive to at least one substrate wherein the hotmelt adhesive comprises nanoscale particles having ferromagnetic, ferrimagnetic, superparamagnetic or piezoelectric properties.

30. (previously presented) The process of claim 29 wherein the substrate is a component of a shoe.